Urban High = 0.00

Description:
The AFC structure cost is calculated by multiplying the total AFC cable cost from column AC by the structure factor for this CBG from main logic column U. (See Note 1, page 24.)

**
Cell:

Column	Label	Formula
AE	Electronics $	=IF('Main Logic'!F2="AFC",$AV$68*AN5,0)
	Rural Low =	0.00

(If is false)

Column	Label	Formula
AE	Electronics $	=IF('Main Logic'!F2="AFC",$AV$68*AN5,0)
	Rural High =	153945.00

(If is true)

Column	Label	Formula
AE	Electronics $	=IF('Main Logic'!F2="AFC",$AV$68*AN5,0)
	Urban Low =	0.00

(If is false)

Column	Label	Formula
AE	Electronics $	=IF('Main Logic'!F2="AFC",$AV$68*AN5,0)
	Urban High =	0.00

(If is false)

Description:
If this CBG is assigned AFC facilities in main logic column F, the AFC electronics cost is determined by multiplying the AFC cost per line from cell AV68 by the number of households in the CBG from column AN.

**
Cell:

Column	Label	Formula
AF	AFC $	=SUM(AC5:AE5)
	Rural Low =	0.00

Column	Label	Formula
AF	AFC $	=SUM(AC8:AE8)
	Rural High =	215446.22

Column	Label	Formula
AF	AFC $	=SUM(AC9:AE9)
	Urban Low =	0.00

Column	Label	Formula
AF	AFC $	=SUM(AC13:AE13)
	Urban High =	0.00

Description:

The total cost for AFC facilities is calculated by summing the AFC fiber costs from column AC, the structure costs from column AD, and the electronic costs from column AE.

**

Cell:

Column	Label	Formula
AG	Feeder Cost	=N5+Z5+AF5
	Rural Low =	$10503

Column	Label	Formula
AG	Feeder Cost	=N8+Z8+AF8
	Rural High =	$215446

Column	Label	Formula
AG	Feeder Cost	=N9+Z9+AF9
	Urban Low =	$9878

Column	Label	Formula
AG	Feeder Cost	=N13+Z13+AF13
	Urban High =	$38589

Description:
The total feeder cost is calculated from the sum of copper feeder costs from column N, SLC feeder costs from column Z, and AFC feeder costs from column AF.

Distribution costing:

Cell:

Column	Label	Formula
AH	Distr Dist	=Input!G2
	Rural Low =	2990

Column	Label	Formula
AH	Distr Dist	=Input!G5
	Rural High =	36438

Column	Label	Formula
AH	Distr Dist	=Input!G6
	Urban Low =	2505

Column	Label	Formula
AH	Distr Dist	=Input!G10
	Urban High =	10349

Description:
The distribution distance is carried forward from input tab column G.

**

Cell:

Column	Label	Formula
AI	Distr Base	=AH5*4*VLOOKUP('Main

	Cost	Logic'!AD2,$AP$35:$AX$45,VLOOKUP(AM5,$AP$50:$AS$55,4),FALSE)+AH5*4*'Main Logic'!AE2*VLOOKUP($L$1,$AP$35:$AX$45,VLOOKUP(AM5,$AP$50:$AS$55,4),FALSE)
	Rural Low =	$22524

Column	Label	Formula
AI	Distr Base	=AH8*4*VLOOKUP('Main
	Cost	Logic'!AD5,$AP$35:$AX$45,VLOOKUP(AM8,$AP$50:$AS$55,4),FALSE)+AH8*4*'Main Logic'!AE5*VLOOKUP($L$1,$AP$35:$AX$45,VLOOKUP(AM8,$AP$50:$AS$55,4),FALSE)
	Rural High =	$532791

Column	Label	Formula
AI	Distr Base	=AH9*4*VLOOKUP('Main
	Cost	Logic'!AD6,$AP$35:$AX$45,VLOOKUP(AM9,$AP$50:$AS$55,4),FALSE)+AH9*4*'Main Logic'!AE6*VLOOKUP($L$1,$AP$35:$AX$45,VLOOKUP(AM9,$AP$50:$AS$55,4),FALSE)
	Urban Low =	$18857

Column	Label	Formula
AI	Distr Base	=AH13*4*VLOOKUP('Main
	Cost	Logic'!AD10,$AP$35:$AX$45,VLOOKUP(AM13,$AP$50:$AS$55,4),FALSE)+AH13*4*'Main Logic'!AE10*VLOOKUP($L$1,$AP$35:$AX$45,VLOOKUP(AM13,$AP$50:$AS$55,4),FALSE)
	Urban High =	$21672

Description:
The distribution cable cost is calculated by summing the cost of any residual size distribution cable with the cost of maximum size distribution cables if required. The residual size cable is found by multiplying the distribution distance from column AH by 4 times the cost per foot found by looking down the first column of the distribution cable cost table for the size from main logic column AD and across to the column number found by looking down the density table for the density from column AM and across to column 4. The maximum size cable cost is found by multiplying the distribution distance from column AH by 4 times the cost per foot found by looking down the first column of the distribution cable cost table for the maximum distribution cable size in cell L1 and across to the column number found by looking down the density table for the density from column AM and across to column 4.

**

Cell:

Column	Label	Formula
AJ	Distr Structure	=AI5*Input!J2
	Rural Low =	$6284

Column	Label	Formula
AJ	Distr Structure	=AI8*Input!J5
	Rural High =	$196600

Column	Label	Formula
AJ	Distr Structure	=AI9*Input!J6
	Urban Low =	$5478

Column	Label	Formula
AJ	Distr Structure	=AI13*Input!J10
	Urban High =	$8409

Description:

The structure cost is calculated by multiplying the distribution cable cost from column AI by the CBG's structure factor from input tab column J.

**

Cell:

Column	Label	Formula
AK	Distr Cost	=AI5+AJ5
	Rural Low =	$28808

Column	Label	Formula
AK	Distr Cost	=AI8+AJ8
	Rural High =	$729390

Column	Label	Formula
AK	Distr Cost	=AI9+AJ9
	Urban Low =	$24335

Column	Label	Formula
AK	Distr Cost	=AI13+AJ13
	Urban High =	$30081

Description:
The total distribution cost is found by summing the cable cost from column AI with the structure cost from column AJ.

**

Cell:

Column	Label	Formula
AL	Ttl Loop Cost	=AG5+AK5
	Rural Low =	$39311

Column	Label	Formula
AL	Ttl Loop Cost	=AG8+AK8
	Rural High =	$944837

Column	Label	Formula
AL	Ttl Loop Cost	=AG9+AK9
	Urban Low =	$34213

Column	Label	Formula
AL	Ttl Loop Cost	=AG13+AK13
	Urban High =	$68670

Description:
The total loop cost is calculated by summing the cost of the feeder from column AG and the cost of the distribution from column AK.

**

Cell:

Column	Label	Formula
AM	Density	=Input!I2

	Rural Low =	589.32

Column	Label	Formula
AM	Density	=Input!I5
	Rural High =	3.67

Column	Label	Formula
AM	Density	=Input!I6
	Urban Low =	769.67

Column	Label	Formula
AM	Density	=Input!I10
	Urban High =	6.59

Description:
The density for this CBG is carried forward from input tab column I.

**

Cell:

Column	Label	Formula
AN	Households	='Main Logic'!G2
	Rural Low =	338

Column	Label	Formula
AN	Households	='Main Logic'!G5
	Rural High =	311

Column	Label	Formula
AN	Households	='Main Logic'!G6
	Urban Low =	305

Column	Label	Formula
AN	Households	='Main Logic'!G10
	Urban High =	45

Description:
The number of CBG households is carried forward from main logic column G and input tab column H.

NOTE 1: In Version II, the structure multiplier will be applied by segment before the costs of the segment are allocated to the sharing CBGs. This will assign the correct terrain factor to all portions of each segment B before it is allocated.

Tables in Costing tab:

Weighted Cable Price Table Format:

Fiber Feeder Costing Table

Cable Size	Cost Below ground	Cost Aerial	Density=0-5
144	=Input!S61	=Input!T61	=(AQ6*$AQ$60/100+AR6*$AR$60/100)*$AV$58
96	=Input!S62	=Input!T62	=(AQ7*$AQ$60/100+AR7*$AR$60/100)*$AV$58
72	=Input!S63	=Input!T63	=(AQ8*$AQ$60/100+AR8*$AR$60/100)*$AV$58

60	=Input!S64	=Input!T64	=(AQ9*$AQ$60/100+AR9*$AR$60/100)*$AV$58
48	=Input!S65	=Input!T65	=(AQ10*$AQ$60/100+AR10*$AR$60/100)*$AV$58
36	=Input!S66	=Input!T66	=(AQ11*$AQ$60/100+AR11*$AR$60/100)*$AV$58
24	=Input!S67	=Input!T67	=(AQ12*$AQ$60/100+AR12*$AR$60/100)*$AV$58
18	=Input!S68	=Input!T68	=(AQ13*$AQ$60/100+AR13*$AR$60/100)*$AV$58
12	=Input!S69	=Input!T69	=(AQ14*$AQ$60/100+AR14*$AR$60/100)*$AV$58

Description:
The initial column of this table has the cable size. The second column has the below ground prices for each size carried forward from the input, tab column S. The third column has the aerial cable prices carried forward from the input tab, column T. The fourth column represented here for the 0-5 density group has the weighting formulas. Each density group has another column following on the right of the table with the only change being the aerial and below ground factors for that specific density group being modified in the formulas. The format for each cable size (line) and density group (columns 4-9) is as follows.

Using the first line for 144 fiber cable - The below ground cable price (AQ6) times the below ground density group % (AQ60) divided by 100 is added to the aerial price (AR6) times the aerial density group % (AR60) divided by 100 with that sum then being multiplied by the respective cable discounted price factor (AV58).

A simple example -
[($2.00*40%/100)+($3.00*60%/100)]*.80 = [($0.80)+($1.80)]*.80 = $2.60*.80 = $2.08. This then is the weighted price per foot for placing that specific size cable in any CBG of that density.

There are similar tables with the exact same theory for copper feeder and copper distribution.

LOOP MODULE - OUTPUT TAB:

Cell:

Column	Label	Formula
A	Company	=Input!A2
	Rural Low =	MOUNTAIN BELL - UT

Column	Label	Formula
A	Company	=Input!A5
	Rural High =	MOUNTAIN BELL - UT

Column	Label	Formula
A	Company	=Input!A6
	Urban Low =	MOUNTAIN BELL - UT

Column	Label	Formula
A	Company	=Input!A10
	Urban High =	MOUNTAIN BELL - UT

Description:
The company name associated with the CLLI code is carried forward from the input tab column A.

**

Cell:

Column	Label	Formula
B	Block Grp #	=Input!C2
	Rural Low =	490399721005

Column	Label	Formula
B	Block Grp #	=Input!C5
	Rural High =	490399721006

Column	Label	Formula
B	Block Grp #	=Input!C6
	Urban Low =	490572102021

Column	Label	Formula
B	Block Grp #	=Input!C10
	Urban High =	490572102023

Description:
The CBG identifier number is carried forward from the input tab column C.

**

Cell:

Column	Label	Formula
C	Office	=Costing!A5
	Rural Low =	MNPLUTMA

Column	Label	Formula
C	Office	=Costing!A8
	Rural High =	MNPLUTMA

Column	Label	Formula
C	Office	=Costing!A9
	Urban Low =	OFDNUTNO

Column	Label	Formula
C	Office	=Costing!A13
	Urban High =	OGDMUTNO

Description:
The CLLI code associated with the block group is carried forward from costing tab column A, main logic column A, and input tab column B.

**

Cell:

Column	Label	Formula
D	Quadrant	=Costing!B5
	Rural Low =	1

Column	Label	Formula

D	Quadrant	=Costing!B8
	Rural High =	4

Column	Label	Formula
D	Quadrant	=Costing!B9
	Urban Low =	1

Column	Label	Formula
D	Quadrant	=Costing!B13
	Urban High =	1

Description:
The quadrant to which the CBG is assigned is carried forward from costing tab column B, main logic column B, and input tab column D.

**

Cell:

Column	Label	Formula
E	Feeder Cost	=Costing!AH5
	Rural Low =	10503.35

Column	Label	Formula
E	Feeder Cost	=Costing!AH8
	Rural High =	215446.22

Column	Label	Formula
E	Feeder Cost	=Costing!AH9
	Urban Low =	9877.81

Column	Label	Formula
E	Feeder Cost	=Costing!AH13
	Urban High =	38588.83

Description:
The total feeder cost is carried forward from costing tab column AH.

**

Cell:

Column	Label	Formula
F	Distr Cost	=Costing!AK5
	Rural Low =	28808.12

Column	Label	Formula
F	Distr Cost	=Costing!AK8
	Rural High =	729390.37

Column	Label	Formula
F	Distr Cost	=Costing!AK9
	Urban Low =	24334.78

Column	Label	Formula

F	Distr Cost	=Costing!AK13
	Urban High =	30080.72

Description:
The total distribution cost is carried forward from costing tab column AK.

**

Cell:

Column	Label	Formula
G	Total Loop Cost	=E2+F2
	Rural Low =	39311.47

Column	Label	Formula
G	Total Loop Cost	=E5+F5
	Rural High =	944836.58

Column	Label	Formula
G	Total Loop Cost	=E6+F6
	Urban Low =	34212.59

Column	Label	Formula
G	Total Loop Cost	=E10+F10
	Urban High =	68669.55

Description:
The total loop cost is calculated from summing the feeder cost from column E and the distribution cost from column F.

**

Cell:

Column	Label	Formula
H	Loop $ per HH	=IF(B2=0,"",G2/I2)
	Rural Low =	116.31

(If is false)

Column	Label	Formula
H	Loop $ per HH	=IF(B5=0,"",G5/I5)
	Rural High =	3038.06

(If is false)

Column	Label	Formula
H	Loop $ per HH	=IF(B6=0,"",G6/I6)
	Urban Low =	112.17

(If is false)

Column	Label	Formula
H	Loop $ per HH	=IF(B10=0,"",G10/I10)
	Urban High =	1525.98

(If is false)

Description:
If the block group number is not zero or blank, the loop cost per household is calculated by dividing the loop cost from column G by the households from column I.

**

Cell:

Column	Label	Formula
I	# Households	='Main Logic'!G2
	Rural Low =	338

Column	Label	Formula
I	# Households	='Main Logic'!G5
	Rural High =	311

Column	Label	Formula
I	# Households	='Main Logic'!G6
	Urban Low =	305

Column	Label	Formula
I	# Households	='Main Logic'!G10
	Urban High =	45

Description:
The number of households in the CBG are carried forward from main logic tab column G and input tab column H.

**

Cell:

Column	Label	Formula
J	Loop Length	=Costing!C5+Input!E2+Costing!AH5
	Rural Low =	4467

Column	Label	Formula
J	Loop Length	=Costing!C8+Input!E5+Costing!AH8
	Rural High =	70818

Column	Label	Formula
J	Loop Length	=Costing!C9+Input!E6+Costing!AH9
	Urban Low =	5163

Column	Label	Formula
J	Loop Length	=Costing!C13+Input!E10+Costing!AH13
	Urban High =	22862

Description:
The parts of the loop length are summed to determine the entire length. The "A" Feeder distance is carried forward from the costing tab column C. The total "B" Feeder distance is carried forward from input tab column E. The distribution portion is carried forward from the costing tab column AH.

**

Cell:

Column	Label	Formula
K	Density	=IF(Input!I2<5,"<=5",IF(Input!I2<=200,"5 TO 200",IF(Input!I2<=650,"200 to 650",IF(Input!I2<=850,"650 to 850",IF(Input!I2<=2550,"850 to 2550",">2550")))))
	Rural Low =	200 to 650

(First and second ifs are false - the third is true)

Column	Label	Formula
K	Density	=IF(Input!I5<5,"<=5",IF(Input!I5<=200,"5 TO 200",IF(Input!I5<=650,"200 to 650",IF(Input!I5<=850,"650 to 850",IF(Input!I5<=2550,"850 to 2550",">2550")))))
	Rural High =	<=5

(First if is true)

Column	Label	Formula
K	Density	=IF(Input!I6<5,"<=5",IF(Input!I6<=200,"5 TO 200",IF(Input!I6<=650,"200 to 650",IF(Input!I6<=850,"650 to 850",IF(Input!I6<=2550,"850 to 2550",">2550")))))
	Urban Low =	650 to 850

(First 3 ifs are false - the fourth is true)

Column	Label	Formula
K	Density	=IF(Input!I10<5,"<=5",IF(Input!I10<=200,"5 TO 200",IF(Input!I10<=650,"200 to 650",IF(Input!I10<=850,"650 to 850",IF(Input!I10<=2550,"850 to 2550",">2550")))))
	Urban High =	5 to 200

(First if is false - the second is true)

Description:
This cell looks at the density for the CBG from the input tab column I and based on that value reports the correct text specifying the density group limits.

**

Cell:

Column	Label	Formula
L	Facility Type	='Main Logic'!F2
	Rural Low =	Cable

Column	Label	Formula
L	Facility Type	='Main Logic'!F5
	Rural High =	AFC

Column	Label	Formula
L	Facility Type	='Main Logic'!F6
	Urban Low =	Cable

Column	Label	Formula
L	Facility Type	='Main Logic'!F10
	Urban High =	SLC

Description:
This formula carries forward the facility type for this CBG calculated in the main logic tab, column F.

Explanation of BCM formulas and cells

OUTPUT MODULE - TABLES & INPUTS TAB:

Input values directly entered in the sheet labeled Tables & Inputs:

**

Cell: 5

Column	Label	Input
H	Per line switching cost	= 238.87

Description:
This is the input variable for the portion of the switch cost that varies by line. The derivation of the default investment amount is documented in Attachment 1 in Section V of the Dec. 1, 1995 BCM submission.

**

Cell: 7

Column	Label	Input
H	Fixed Cost per switch	=647526

Description:
This is the input variable for the portion of the switch cost that is fixed per switch. The derivation of the default investment amount is documented in Attachment 1 in Section V of the Dec. 1, 1995 BCM submission.

**

Cell: 9

Column	Label	Input
H	% Non Traffic Sensitive	=70.00%

Description:
This is the input variable for the percentage of the switch considered to be non-traffic sensitive.

**

Cell: 12

Column	Label	Input
H	% of Traffic Sensitive that is Local	=30.00%

Description:
This is the input variable for the percentage of the switch traffic or minutes of use that are local.

**

Cell: 14

Column	Label	Input
H	Business Gross up factor	=1.75

Description:
This input is the multiplier used to derive the total lines using the switch based upon the number of households in CBGs associated with the switch due to proximity. It is multiplied times households to yield lines served by the switch.

**

Cell: 17

Column	Label	Input
H	Switch Fill Factor	=0.8

Description:
This input is the engineering fill factor percentage for the switch. It represents the maximum percentage of working ports on the switch, that if reached, the switch must be expanded with additional capacity.

**

Cell: 20

Column	Label	Input
I	ARMIS Carrying charge factor	=0.316765

Description:
This input is an annual cost conversion factor used to develop annual and monthly cost based on the investment and capital cost calculated in the BCM. The default input ARMIS factor is documented on page IV-28 of the Dec. 1, 1995 BCM submission.

**

Cell: 22

Column	Label	Input
I	Direct Carrying Charge Factor	=0.2297

Description:
This input is a second annual cost conversion factor used to develop annual and monthly cost based on the investment and capital cost calculated in the BCM. The default input Hatfield/MCI factor is documented on page IV-28 of the Dec. 1, 1995 BCM submission.

TABLES:

Fixed Cost Table

Sum of Switched Lines	
Office	Total
Unique OFFICE/CLLI	Switched lines in an office
MNPLUTMA	2,428.13
OGDNUTNO	18,714.06

Description:
This Excel Pivot Table sums the number of switched lines for all CBG's associated with each unique CLLI. (CO). The Pivot Table sums the switched lines in Column N of the Data & Calcs Tab for each unique CLLI in Column C of the Data & Calcs Tab.

**

Cell: 3

Column	**Label**	**Formula**
C	Fxd Cst/Ln	=IF(B3=0,"",($H$7*($H$9+(1-$H$9)*$H$12))/B3)

Rural = 210.68

(First IF is false)

Column	**Label**	**Formula**
C	Fxd Cst/Ln	=IF(B3=0,"",($H$7*($H$9+(1-$H$9)*$H$12))/B3)

Urban = 27.33

(First IF is false)

Description:
If there is nothing in the The Total Switched Lines in an Office column, leave the cell blank, otherwise multiply the Fixed Cost per Switch by the sum of ((the Traffic Sensitive Percentage multiplied by the Percent of Traffic Sensitive that is Local) and the Non-Traffic Sensitive Percentage)). Next, divide this quantity by the Total Switched Lines in an Office.

OUTPUT MODULE - DATA & CALCS TAB:

Input values directly entered in the sheet labeled Data & Calcs:

**

Cell:

Column	Label	Formula
A	Company	=Input - copied from column A of the output sheet of the Loop Model Rural Low = Mountain Bell - UT Rural High = Mountain Bell - UT Urban Low = Mountain Bell - UT Urban High = Mountain Bell - UT

Description:
A carry forward of the Company name from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
B	Block Grp #	=Input - copied from column B of the output sheet of the Loop Model Rural Low = 490399721005 Rural High = 490399721006 Urban Low = 490572102021 Urban High = 490572102023

Description:
A carry forward of the Block group number from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
C	Office	=Input - copied from column C of the output sheet of the Loop Model Rural Low = MNPLUTMA Rural High = MNPLUTMA Urban Low = OGDNUTNO Urban High = OGDNUTNO

Description:
A carry forward of the Office name from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
D	Quandrant	=Input - copied from column D of the output sheet of the Loop Model Rural Low = 1 Rural High = 4 Urban Low = 1 Urban High = 1

Description:
A carry forward of the Quandrant number from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
E	Feeder Cost	=Input - copied from column E of the output sheet of the Loop Model Rural Low = 10,503.35 Rural High = 215,446.22 Urban Low = 9,877.81 Urban High = 38,588.83

Description:
A carry forward of the Feeder cost from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
F	Distr Base Cost	=Input - copied from column F of the output sheet of the Loop Model Rural Low = 28,808.12 Rural High = 729,390.37 Urban Low = 24,334.78 Urban High = 30,080.82

Description:
A carry forward of the Distribution base cost from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
G	Total Loop Cost	=Input - copied from column G of the output sheet of the Loop Model Rural Low = 39,3111.47 Rural High = 944,836.58 Urban Low = 34,212.59 Urban High = 68,669.55

Description:
A carry forward of the Total loop cost from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
H	Loop $ per HH	=Input - copied from column H of the output sheet of the Loop Model Rural Low = 116.31 Rural High = 3,038.06 Urban Low = 112.17 Urban High = 1,525.99

Description:
A carry forward of the Loop cost per household from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
I	Total HH	=Input - copied from column I of the output sheet of the Loop Model Rural Low = 388 Rural High = 311 Urban Low = 305 Urban High = 45

Description:
A carry forward of the Total households from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
J	Loop Length	=Input - copied from column J of the output sheet of the Loop Model Rural Low = 4,467 Rural High = 70,818 Urban Low = 5,163 Urban High = 22,862

Description:
A carry forward of the Loop length from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
K	Density	=Input - copied from column K of the output sheet of the Loop Model Rural Low = 200 to 650 Rural High = <=5 Urban Low = 650 to 850 Urban High = 5 to 200

Description:
A carry forward of the Density from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
L	Facility Type	=Input - copied from column L of the output sheet of the Loop Model Rural Low = Cable Rural High = AFC Urban Low = Cable Urban High = SLC

Description:
A carry forward of the Facility type from the output sheet of the Loop model.

**

Cell:

Column	Label	Formula
M	HH incl Bus	=I2*$R$2
		Rural Low = 592
		Rural High = 544
		Urban Low = 534
		Urban High = 79

Description:
This formula calculates the total of household lines plus business lines. The number of households in Column I are multiplied by the business gross up factor.

**

Cell:

Column	Label	Formula
N	Switched Lines	=M2/$R$5
		Rural Low = 739
		Rural High = 680
		Urban Low = 667
		Urban High = 98

Description:
This formula calculates the total number of switched lines needed on the switch for the number of active households and business lines served by the switch. This calculation divides the number of households and business lines in column M by the switch fill factor.

**

Cell:

Column	LabeIn	Formula
O	Sw Fxd $/Ln	=IF(A2=0,"",VLOOKUP(C2,FixedCostTable,3))
		Rural Low = 210.68
		Rural High = 210.68
		Urban Low = 27.33
		Urban High = 27.33

(IF is false in all 4 cases)

Description:
This formula looks up the fixed switch investment per line for associated the CLLI. If there is zero in the company name column, leave the cell blank, otherwise look up the CLLI in the Fixed Cost Table on the Table & Inputs Tab and enter the number from the third column from the left, the fixed cost/line, in this cell.

**

Cell:

Column	Label	Formula
P	Ttl Sw Inv/Ln	=IF(A2=0,"",$R$15*(O2+$R$11))
		Rural Low = 468.88
		Rural High = 468.88
		Urban Low = 277.65

Urban High = 277.65

(IF is false in all 4 cases)

Description:
This formula calculates the total switch cost per line for the CBG. If the company name equals zero, leave the cell blank, otherwise multiply the switch land and building factor by the sum of the switch fixed cost per line in Column O and the switch cost per line in Cell R11.

**

Cell: 2

Column	Label	Formula
R	Business Gross Up Factor	='Tables & Inputs'!H14 Rural Low = 1.75 Rural High = 1.75 Urban Low = 1.75 Urban High = 1.75

Description:
A carry forward of the switch cost per line from the Tables & Inputs Tab.

**

Cell: 5

Column	Label	Formula
R	Switch Fill Factor	='Tables & Inputs'!H17 Rural Low = .8 Rural High = .8 Urban Low = .8 Urban High = .8

Description:
A carry forward of the switch cost per line from the Tables & Inputs Tab.

**

Cell: 11

Column	Label	Formula
R	Sw Cost/Line	='Tables & Inputs'!H5 Rural Low = 238.87 Rural High = 238.87 Urban Low = 238.87 Urban High = 238.87

Description:
A carry forward of the switch cost per line from the Tables & Inputs Tab.

**

Cell: 15

Column	Label	Formula
R	Sw Land & Buliding Factor	=1.043

Description:
This constant factor is used to reflect the additional investment of the land and building where the CO switch is housed. Thus, if the switch investment is $1,000.00, the investment in the land and building is $43.00.

All cells in the logic area are the same within a column. Each row represents a CBG. All rows have the same logic e.g. cells A1 through A5300 are exactly the same. The same is true for all columns A through P.

The Rural Low CBG = 490399721005 & Office = MNPLUTMA
The Rural High CBG = 490399721006 & Office = MNPLUTMA
The Urban Low CBG = 490572102021 & Office = OGDNUTNO
The Urban High CBG = 490572102023 & Office = OGDNUTNO

OUTPUT MODULE - RESULTS TAB

All cells in the logic area are the same within a column. Each row represents a CBG. All rows have the same logic e.g. cells A1 through A5300 are exactly the same. The same is true for all columns A through V.

**

Cell:

Column	Label	Formula
A	Block Grp #	='Data & Calcs'!B2
		Rural Low = 490399721005
		Rural High = 490399721006
		Urban Low = 490572102021
		Urban High = 490572102023

Description:
Carry forward of the Census Block Group from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
B	Office	='Data & Calcs'!C2
		Rural Low = MNPLUTMA
		Rural High = MNPLUTMA
		Urban Low = OGDNUTNO
		Urban High = OGDNUTNO

Description:
Carry forward of the Office from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
C	Company	='Data & Calcs'!A2
		Rural Low = Mountain Bell - UT
		Rural High = Mountain Bell - UT
		Urban Low = Mountain Bell - UT
		Urban High = Mountain Bell - UT

Description:
Carry forward of the Company from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
D	Loop $ per HH	='Data & Calcs'!H2
		Rural Low = 116.31
		Rural High = 3,038.06
		Urban Low = 112.17

Urban High = 1,525.99

Description:
Carry forward of the Loop cost per household from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
E	Ttl Sw Inv/Ln	='Data & Calcs'!P2
		Rural Low = 468.88
		Rural High = 468.88
		Urban Low = 277.65
		Urban High = 277.65

Description:
Carry forward of Total switching invesment per line from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
F	Total Invstmnt/Ln	=IF(A2=0,"",D2+E2)
		Rural Low = 585.18
		Rural High = 3,506.94
		Urban Low = 389.82
		Urban High = 1,803.64

(IF is false for all 4 cases)

Description:
This formula calculates a total investment per line for the CBG. If the CBG number in Column A is zero, leave the cell blank, otherwise add Column D, the loop investment per household and Column E, the total switch investment per line.

**

Cell:

Column	Label	Formula
G	Annual Cost1	=IF($A2=0,"",$2*'Tables & Inputs'!$I$20)
		Rural Low = 185.37
		Rural High = 1,110.87
		Urban Low = 123.48
		Urban High = 571.33

(IF is false for all 4 cases)

Description:
This formula calculates the annual cost per line utilizing the ARMIS factor. If the CBG number is zero, leave the cell blank, otherwise multiply Column F, the total investment per line times the ARMIS factor in Cell I20 of the Tables & Inputs Tab.

**

Cell:

Column	Label	Formula
H	Monthly Cost1	=IF(A2=0,"",G2/12)
		Rural Low = 15.45
		Rural High = 92.57
		Urban Low = 10.29
		Urban High = 47.61

(IF is false for all 4 cases)

Description:
This formula calculates a monthly cost based on the ARMIS cost factor. If the CBG number is zero, leave the cell blank, otherwise divide the ARMIS annual cost in Column G by 12.

**

Cell:

Column	Label	Formula
I	Loop Length	='Data & Calcs'!J2
		Rural Low = 4,467
		Rural High = 70,818
		Urban Low = 5,163
		Urban High = 22,862

Description:
Carry forward of the Loop length from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
J	Facility Type	='Data & Calcs'!L2
		Rural Low = Cable
		Rural High = AFC
		Urban Low = Cable
		Urban High = SLC

Description:
Carry forward of the Facility type from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
K	# Households	='Data & Calcs'!I2
		Rural Low = 388
		Rural High = 311
		Urban Low = 305
		Urban High = 45

Description:
Carry forward of the Number of households from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
L	Density	='Data & Calcs'!K2
		Rural Low = 200 to 650
		Rural High = <=5
		Urban Low = 650 to 850
		Urban High = 5 to 200

Description:
Carry forward of the Density from the Data & Calcs sheet.

**

Cell:

Column	Label	Formula
M	HH*Annual Cost1	=IF(G2="",0,G2*$K2)
		Rural Low = $ 62,653
		Rural High = $ 345,482
		Urban Low = $ 37,662
		Urban High = $ 25,710

(IF is false for all 4 cases)

Description:
This formula calculates the total annual cost to serve all households in the CBG. If the annual cost is blank, put a value of zero in the cell, otherwise multiply the ARMIS annual cost by the number of households.

**

Cell:

Column	Label	Formula
N	>$20 Benchmark	=IF($H2="",0,IF($H2>20,$H2-20,0))*12*$K2
		Rural Low = $ 0

(First IF is false - the second is false)

Column	Label	Formula
N	>$20 Benchmark	=IF($H2="",0,IF($H2>20,$H2-20,0))*12*$K2
		Rural High = $ 270,842

(First IF is false - the second is true)

Column	Label	Formula
N	>$20 Benchmark	=IF($H2="",0,IF($H2>20,$H2-20,0))*12*$K2
		Urban Low = $ 0

(First IF is false - the second is false)

Column	Label	Formula
N	>$20 Benchmark	=IF($H2="",0,IF($H2>20,$H2-20,0))*12*$K2
		Urban High = $ 14,910

(First IF is false - the second is true)

Description:
This formula calculates the aggregate cost for the CBG above $20 per month . If the monthly cost is blank, place a value of zero in the cell, otherwise if the ARMIS monthly cost in Column H is greater than $20/month, subtract $20 from the monthly cost in Column H and multiply the difference by 12 and multiply that product by the number of households in the CBG in Column K. If the ARMIS monthly cost in Column H is less than $20, place a value of zero in the cell.

**

Cell:

Column	Label	Formula
O	>$30 Benchmark	=IF($H2="",0,IF($H2>30,$H2-30,0))*12*$K2
		Rural Low = $ 0

(First IF is false - the second is false)

Column	Label	Formula
O	>$30 Benchmark	=IF($H2="",0,IF($H2>30,$H2-30,0))*12*$K2
		Rural High = $ 233,522

(First IF is false - the second is true)

Column	Label	Formula
O	>$30 Benchmark	=IF($H2="",0,IF($H2>30,$H2-30,0))*12*$K2
		Urban Low = $ 0

(First IF is false - the second is false)

Column	Label	Formula
O	>$30 Benchmark	=IF($H2="",0,IF($H2>30,$H2-30,0))*12*$K2
		Urban High = $ 9,510

(First IF is false - the second is true)

Description:
This formula calculates the aggregate cost for the CBG above $30 per month . If the monthly cost is blank, place a value of zero in the cell, otherwise if the ARMIS monthly cost in Column H is greater than $30/month, subtract $30 from the monthly cost in Column H and multiply the difference by 12 and multiply that product by the number of households in the CBG in Column K. If the ARMIS monthly cost in Column H is less than $30, place a value of zero in the cell.

**

Cell:

Column	Label	Formula
P	>$40 Benchmark	=IF($H2="",0,IF($H2>40,$H2-40,0))*12*$K2
		Rural Low = $ 0